

Year: B. Tech III (Semester VI)

Subject Name: Information Security
Type of course: Open Elective Course

Subject Code: BTIT15602

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
3	0	0	3	60	25	15	0	0	100

CA1: Continuous Assessment (assignments / projects / open book tests / closed book tests) CA2: Sincerity in attending classes / class tests / timely submissions of assignments / self-learning attitude / solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work / Quality of work submitted / Active participation in lab sessions / viva on practical skills learned in course.

Contents:

Sr. No.	Contents	Total Hrs.
1.	Introduction: History, What is Information Security?, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC	05
2.	Security Investigation: Need for Security, Business Needs, Threats, Attacks, Legal, Ethical and Professional Issues - An Overview of Computer Security - Access Control Matrix, Policy-Security policies, Confidentiality policies, Integrity policies and Hybrid policies	10
3.	Security Analysis: Risk Management: Identifying and Assessing Risk, Assessing and Controlling Risk - Systems: Access Control Mechanisms, Information Flow and Confinement Problem	10
4.	Logical Design: Blueprint for Security, Information Security Policy, Standards and Practices, ISO 17799/BS 7799, NIST Models, VISA International Security Model, Design of Security Architecture, Planning for Continuity	10
5.	Physical Design: Security Technology, IDS, Scanning and Analysis Tools, Cryptography, Access Control Devices, Physical Security, Security and Personnel	10

Suggested Specification table with Marks (Theory): (For B. Tech only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	30	15	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom’s Taxonomy)

Reference Books:

Sr No.	Title of book /article	Author(s)	Publisher and details like ISBN
1.	Principles of Information Security	Michael E Whitman and Herbert J Mattord	Vikas Publishing House
2.	Handbook of Information Security Management	Micki Krause, Harold F. Tipton	CRC Press LLC
3.	Hacking Exposed	Stuart McClure, Joel Scrambray, George Kurtz	Tata McGraw- Hill

Note: Students should refer to the latest editions of books

Course Outcomes:

Sr. No.	CO statements	Marks % weightage
CO-1	Explain the basics of information security.	20%
CO-2	Illustrate the legal, ethical and professional issues in information security.	20%
CO-3	Demonstrate the aspects of risk management.	20%
CO-4	Describe various standards in the Information Security System.	20%
CO-5	Design and implementation of Security Techniques.	20%